

Not Responsive

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Key to color coding in column 1:								
		HazMats	Oil to Water	Marcellus Shale	Other	Significant Releases	Same incident, various reports	
NRC#	Facility (Name and Location)	Release Date	Time Lapse (Days, Hours, Minutes)	Chemical/CAS No.	Quantity Released	304/103 RQs (lbs)	Report Comments	
							Program Decision I = Insp E = Info Request P = Pass O = Other	
Not Responsive								
Ex. 5 - Deliberative								
1070627	WEST VIRGINIA AMERICAN WATER INCIDENT LOCATION ELK RIVER 1015 BARLOW DRIVE State: WV	1/9/2014	8 hrs. 29 min.	Methylcyclohexane	Unknown	Not Listed	RESIDENTS IN CHARLESTON AND SURROUNDING COUNTIES WERE TOLD THURSDAY EVENING NOT TO DRINK, COOK WITH OR WASH WITH WATER SUPPLIED BY WEST VIRGINIA AMERICAN WATER, FOLLOWING A LEAK EARLIER IN THE DAY AT A CHEMICAL FACILITY ALONG THE ELK RIVER. ANY WATER SUPPLIED BY WEST VIRGINIA AMERICAN WATER IN KANAWHA, PUTNAM, BOONE, JACKSON AND LINCOLN COUNTIES WAS TO BE USED ONLY FOR FLUSHING TOILETS AND PUTTING OUT FIRES. THE STATE OF EMERGENCY INCLUDES WEST VIRGINIA AMERICAN WATER CUSTOMERS IN BOONE, LINCOLN, KANAWHA, JACKSON AND PUTNAM COUNTIES, ACCORDING TO NBC STATION WSAZ. RESIDENTS WERE TOLD NOT TO DRINK THE WATER, BATHE IN IT OR COOK WITH THE WATER AND ONLY USE IT FOR FLUSHING AND FIRE EMERGENCIES. BOILING IT WILL NOT REMOVE THE CHEMICALS. THE DECLARATION IS BELIEVED TO IMPACT 100,000 CUSTOMERS, WSAZ REPORTED. THE STATION SAID THE CHEMICAL LEAKED FROM A TANK AT FREEDOM INDUSTRIES IN CHARLESTON. THE LEAKED PRODUCT IS 4-METHYLCYCLOHEXANE METHANOL, WHICH IS USED IN THE FROTH FLOTATION PROCESS OF COAL WASHING AND PREPARATION. ACCORDING TO WEST VIRGINIA AMERICAN WATER, DUE TO A CHEMICAL LEAK THAT WENT INTO THE ELK RIVER THURSDAY, A DO NOT USE WATER ORDER HAS BEEN ISSUED FOR THE COUNTIES OF BOONE, JACKSON, KANAWHA, LINCOLN, AND PUTNAM IN WV. RESIDENTS LIVING IN THESE COUNTIES WHO USE WEST VIRGINIA AMERICAN WATER ARE BEING ASKED TO NOT USE TAP WATER FOR DRINKING, COOKING, WASHING, OR BATHING UNTIL FURTHER NOTICE. THE PUBLIC SERVICE DISTRICT SAYS THIS ONLY AFFECTS CUSTOMERS WHO USE WEST VIRGINIA AMERICAN WATER. CUSTOMERS IN ST. ALBANS AND CEDAR GROVE ARE NOT AFFECTED BY THIS. IT IS BELIEVED THAT THE MATERIAL MAY BE HAZARDOUS AND MAY HAVE ENTERED THE WATER SYSTEM. THE GOVERNOR OF WV HAS DECLARED A STATE OF EMERGENCY.	
							Decision: Date: Rationale:	
							Ex. 5 - Deliberative	

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Ex. 5 - Deliberative

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MATERIAL SAFETY DATA SHEET

Revision Date: 10/19/2005
MSDSUSA/ANSI/EN/15000001/291/Version 5.0
0032691126/0004233552

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Crude MCHM
Product Identification Number(s)	P1871700
Manufacturer/Supplier	Eastman Chemical Company 200 South Wilcox Drive Kingsport, TN 37660-5280 US +14232292000
MSDS Prepared by	Eastman Product Safety and Health
Chemical Name	not applicable
Synonym(s)	972790
Molecular Formula	not applicable
Molecular Weight	not applicable
Product Use	Industrial chemical, gasoline blending
OSHA Status	hazardous

For emergency health, safety & environmental information, call 800-EASTMAN.

For emergency transportation information, call CHEMTREC at 800-424-9300 or call 800-EASTMAN.

2. COMPOSITION INFORMATION ON INGREDIENTS

(Typical composition is given, and it may vary. A certificate of analysis can be provided, if available.)

Weight %	Component	CAS Registry No.
68 - 89%	4-methylcyclohexanemethanol	34885-03-5
4 - 22%	4-(methoxymethyl)cyclohexanemethanol	96955-27-2
4 - 10%	water	7732-18-5
5%	methyl 4-methylcyclohexanecarboxylate	51181-40-9
1%	dimethyl 1,4-cyclohexanedicarboxylate	94-60-0
1%	methanol	67-56-1
1 - 2%	1,4-cyclohexanedimethanol	105-08-8

3. HAZARDS IDENTIFICATION

WARNING!
HARMFUL IF SWALLOWED
CAUSES SKIN AND EYE IRRITATION
AT ELEVATED TEMPERATURES, VAPOR MAY CAUSE IRRITATION OF EYES AND
RESPIRATORY TRACT

HMIS® Hazard Ratings: Health - 2, Flammability - 1, Chemical Reactivity - 0

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MATERIAL SAFETY DATA SHEET

Revision Date: 10/19/2005

MSDSUSA/ANSI/EN/150000014291/Version 5.0

0032691126/0004233552

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 200 ppm.

US. ACGIH Threshold Limit Values

Short Term Exposure Limit (STEL): 250 ppm.

US. ACGIH Threshold Limit Values

Skin designation: Can be absorbed through the skin.

METHYL ALCOHOL

US. NIOSH: Pocket Guide to Chemical Hazards

Recommended exposure limit (REL): 200 ppm, 260 mg/m³

US. NIOSH: Pocket Guide to Chemical Hazards

Short Term Exposure Limit (STEL): 250 ppm, 325 mg/m³

US. NIOSH: Pocket Guide to Chemical Hazards

Skin designation: Can be absorbed through the skin.

METHYL ALCOHOL; METHANOL

US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

Time Weighted Average (TWA) Permissible Exposure Limit (PEL): 200 ppm, 260 mg/m³

US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

Ceiling Limit Value: 1,000 ppm.

US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

Short Term Exposure Limit (STEL): 250 ppm, 325 mg/m³

US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

Skin designation: Can be absorbed through the skin.

METHYL ALCOHOL

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

PEL: 200 ppm, 260 mg/m³

Ventilation: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Eye Protection: Wear safety glasses with side shields (or goggles). Wear a full-face respirator, if needed.

Skin Protection: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Recommended Decontamination Facilities: eye bath, safety shower, washing facilities

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: liquid

Color: colorless

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MATERIAL SAFETY DATA SHEET

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Odor: alcohol
Specific Gravity: < 1 estimated
Freezing Point: 0 °C
Boiling Point: 180 °C
Solubility in Water: appreciable
Flash Point: 112.8 °C (Settflash closed cup)
Thermal Decomposition Temperature: Thermal stability not tested. Low stability hazard expected at normal operating temperatures.

10. STABILITY AND REACTIVITY

Stability: Not fully evaluated. Materials containing similar structural groups are normally stable.
Incompatibility: Material reacts with strong oxidizing agents.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity data, if available, are listed below. Additional toxicity data may be available on request.

Oral LD-50: (rat)	825 mg/kg
Dermal LD-50: (rat)	> 2,000 mg/kg (only dose tested)
Skin Irritation (rabbit)	strong
Skin Sensitization: (guinea pig)	none

12. ECOLOGICAL INFORMATION

Acute toxicity data, if available, are listed below. Additional toxicity data may be available on request.

Oxygen Demand Data:

BOD-5: 70 mg/g
BOD-20: 1,300 mg/g

COD: 2,540 mg/g

Acute Aquatic Effects Data:

96 h LC-50 (fathead minnow): 57.4 mg/l NOEC: 25 mg/l
48 h EC-50 (daphnid): 98.1 mg/l NOEC: 40 mg/l

13. DISPOSAL CONSIDERATIONS

Discharge, treatment, or disposal may be subject to national, state, or local laws. Incinerate.

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0032691126/0004233552

14. TRANSPORT INFORMATION

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

DOT (USA)

Class not regulated

Sea - IMDG (International Maritime Dangerous Goods)

Class not regulated

Air - ICAO (International Civil Aviation Organization)

Class not regulated

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS (Canada) Status: controlled

WHMIS (Canada) Hazard Classification: D/2/B

SARA 311-312 Hazard Classification(s):
immediate (acute) health hazard

SARA 313: none, unless listed below
METHANOL

Carcinogenicity Classification (components present at 0.1% or more): none, unless listed below

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MATERIAL SAFETY DATA SHEET

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TSCA (US Toxic Substances Control Act): All components of this product are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): One or more components of this product are not listed on the DSL. In Canada, its use is restricted to research and development purposes only.

EINECS (European Inventory of Existing Commercial Chemical Substances): One or more components or reactants of this product are not listed on EINECS. In the European Union, its use is restricted to research and development purposes only.

MITI (Japanese Handbook of Existing and New Chemical Substances): One or more components or reactants of this product are not listed in the Handbook. In Japan, its use is restricted to research and development purposes only.

ECL (Korean Toxic Substances Control Act): One or more components of this product are not listed on the Korean inventory. In Korea, its use is restricted to research and development purposes only.

16. OTHER INFORMATION

Visit our website at www.EASTMAN.com or call 001-423-229-2000.

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information. Users should make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials, the safety and health of employees and customers, and the protection of the environment.

Highlighted areas indicate new or changed information.

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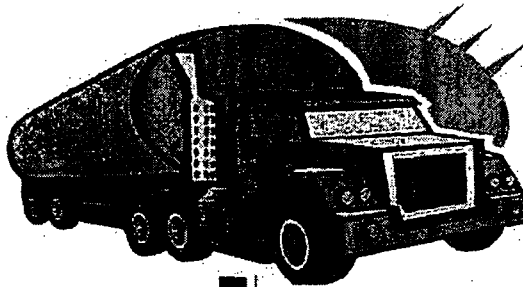
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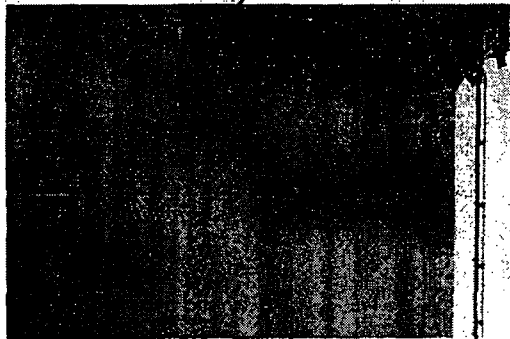
Attachment B

Process Flow Diagram - MCHM

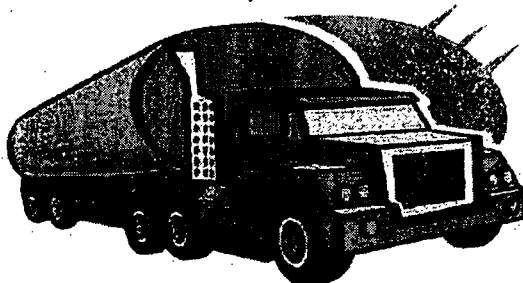
Product is delivered



Pumped to a storage tank



**Pumped out of the tank
For delivery to customers**



Attachment C

Process Description

ERT receives tank trailer shipment of raw materials. These materials are pumped to the appropriate storage tank. MCHM, is shipped to customers, in bulk tank trailers, without further processing.

Glycerin is occasionally shipped, in bulk tank trailers, without further processing. Usually, however, glycerin is pumped to another large storage tank, mixed with water and other ingredients to meet customer specifications, and shipped in bulk tank trailers.

Occasionally, high pH glycerin is received. Hydrochloric acid is used to lower the pH. The hydrochloric acid is metered into the glycerin through a closed-loop addition system. Only enough hydrochloric acid is ordered to neutralize the glycerin on-hand. The hydrochloric acid is never stored for more than a few days.

For emergency transportation information, call UNCLASIFIED at 1-800-424-9090

2. COMPOSITION INFORMATION ON INGREDIENTS

(Typical composition is given, and it may vary. A certificate of analysis can be provided, if available.)

Weight %	Component	CAS Registry No.
88 - 89%	4-methylcyclohexanemethanol	34885-03-5
4 - 22%	4-(methoxymethyl)cyclohexanemethanol	98955-27-2
4 - 10%	water	7732-18-5
5%	methyl 4-methylcyclohexanecarboxylate	51181-40-9
1%	dimethyl 1,4-cyclohexanedicarboxylate	94-80-0
1%	methanol	67-58-1
1 - 2%	1,4-cyclohexanedimethanol	108-68-8

3. HAZARDS IDENTIFICATION

WARNING!

HARMFUL IF SWALLOWED

CAUSES SKIN AND EYE IRRITATION

AT ELEVATED TEMPERATURES, VAPOR MAY CAUSE IRRITATION OF EYES AND RESPIRATORY TRACT

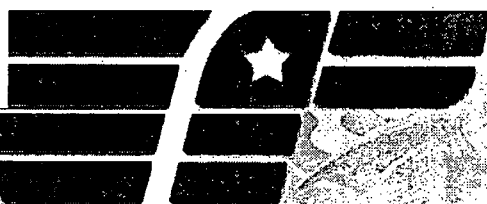
HMIS® Hazard Ratings: Health - 2, Flammability - 1, Chemical Reactivity - 0

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January 13, 2014



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INDUSTRIES, INC**

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Freedom Industries

Overview Products & Services



Freedom Industries is the largest sole producer of mining chemical products in the United States with primary production plants in Nitro and Charleston, WV; as well as satellite operations in Pittsburgh, PA; Owensboro, KY; Chicago, IL; St. Louis, MO; and Grand Junction, CO. We are able to deliver drum, tote, truck, and rail car quantities of our products anywhere.

Freedom Industries has extensive equipment support services to design, engineer, and fabricate equipment to optimize product application. The Charleston, WV based facility is committed to meeting our customers' unique needs and requirements. A wide range of systems are available from simple, standard injection schemes to complex, programmable controllers for full process automation.

Freedom Industries' service technicians support you at your facility. Staff is trained to understand the chemical, electrical, and mechanical aspects of your system. Your process is surveyed routinely by our staff to insure economic and effective chemical treatment. These inspections include system performance analysis, component repair and replacement, inventory check, and a program status review with facility management to discuss program effectiveness. Product technical support is provided by our analytical laboratory in Charleston, WV. The analytical laboratory is responsible for new product development as well as supporting field service technicians.

Specialties

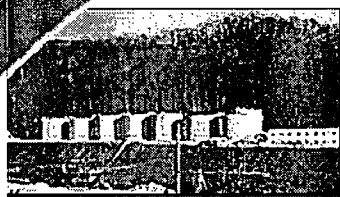
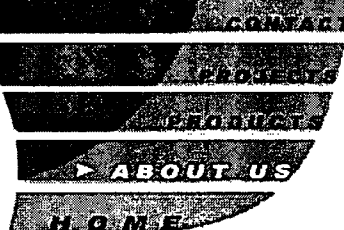
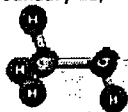
Freeze Conditioning Agents, Dust Control Palliatives, Flotation Reagents, Water Treatment Polymers, Environmental, Mineral Processing, Flocculants, Car Topper
less

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January 13, 2014

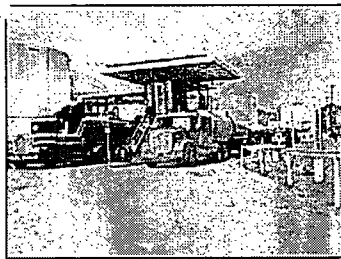


The corporate office now located at the Etowah River Terminal in Charleston, WV.

Freedom Industries is a full service producer of specialty chemicals for the mining, steel, and cement industries. Founded in 1986 and located in Charleston, WV, Freedom Industries is a leading producer of freeze conditioning agents, dust control palliatives, flotation reagents, water treatment polymers and other specialty chemicals.

In 2001, Freedom Industries produced 50,000,000# of

specialty products at our two production facilities located in Nitro, WV and Charleston, WV. The Nitro plant, Poca Blending, operates four emulsion lines, two FCA blenders, and one specialty chemical reactor. Poca Blending has a fully staffed laboratory for quality assurance and research, and moves finished goods via truck and rail (Norfolk Southern).



The Charleston plant, Etowah River Terminal, is located on the Elk River and accessible by barge and truck. With 4,000,000 gallons of storage capacity and two computer controlled truck loading stations, Etowah River Terminal can process large volumes of chemical rapidly, and cost effectively.

Freedom Industries operates a service group with complete fabrication and support capability. Chemical pumps, tanks, controls, and associated equipment are built and maintained at the customer site by Freedom's Engineering Support Group consisting of as many as 18 engineers and service



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Climate
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Sports



AP Photo/Michael Switzer

How To Stop The Next Chemical Spill From Happening In Your Town

BY EMILY ATKIN ON MARCH 7, 2014 AT 11:40 AM

After a mysterious chemical contaminated the water supply of some 300,000 West Virginians in January, residents were left with more than just a bad taste in their mouths. They had unanswered questions. Why, they asked, was there so little information on the specific chemical that spilled? Why were storage tanks allowed to be so close to such an important drinking water supply? Why was there no emergency response plan in place? And why had it been 23 years since anyone inspected those tanks?

Share this:



The way America regulates its vast inventory of chemical compounds was immediately called into question. People were shocked to learn that under federal law, more than 60,000 chemicals are allowed to enter American commerce without scientific proof that they are safe. And according to federal government estimates, one out of every three Americans is at risk of a poison gas disaster by living near one of hundreds of chemical facilities that house highly toxic chemicals.

Lawmakers in West Virginia hurried to introduce new rules for chemical storage tank safety, a version of which just passed the state's House of Representatives. But those who have been trying for broader reform say that bill is not enough. It would take more than one hastily-drafted bill, they said, to fix all of the loopholes and challenges that currently plague chemical safety and storage regulation. It would take more to prevent the next West Virginia.

"I'm looking for action here, not a lot of words," Sen. Barbara Boxer (D-CA) said during a recent hearing on chemical reform. "And so far, I've seen a lot of words."

Why Do It?

Despite very real concerns of future spills in West Virginia and beyond, advocates for complete chemical safety reform have not seen the legislation they are so desperately looking for. That lack of hard information begs the questions: What would true reform actually look like? How difficult would it be to achieve?

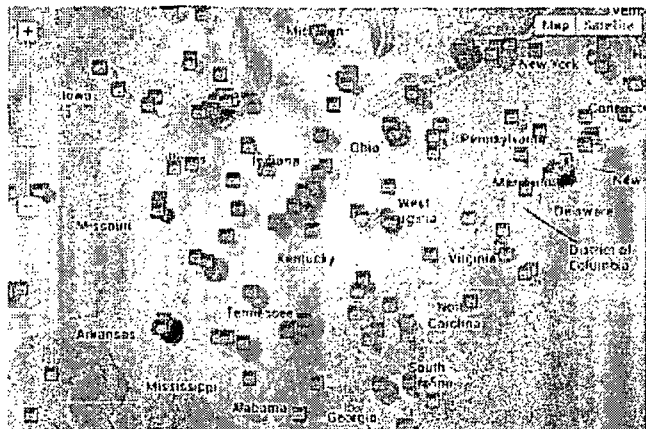
It's easy for someone to say 'we shouldn't be shocked' when it's not their family or themselves, when they don't feel the repercussions

The United States federal government currently regulates more than 84,000 chemical substances. There are approximately 12,440 chemical facilities across the country, surrounded by more than 100 million people. Of those facilities, 473 of them surround populations of 100,000 people or more, putting large populations at risk of catastrophe from a deliberate or accidental chemical release.

And chemical releases happen often. According to the EPA's Toxic Release Inventory, 1,374 different facilities leaked 287 different chemicals into streams, rivers, lakes, and oceans in 2010 — all for a total of 194 million pounds of chemicals released that year. As a report in Bloomberg Businessweek notes, that's almost 10,000 tons of chemicals spilled into U.S. waters in one year, and those are just the ones that have been officially reported.

Share this:





A Greenpeace interactive map shows high-risk chemical plants throughout the United States.

CREDIT: Greenpeace

Bloomberg's takeaway from those numbers is that "we shouldn't be surprised, shocked, or awed when a spill happens." But some aren't willing to take that approach.

"It's easy for someone to say 'we shouldn't be shocked' when it's not their family or themselves, when they don't feel the repercussions," Maya Nye, president of the West Virginia citizen group People Concerned About Chemical Safety (PCACS), told ThinkProgress. Nye has been advocating for safer chemical storage regulations with PCACS since a 2008 explosion at a Bayer CropScience pesticide facility killed two workers and injured eight, nearly puncturing a neighboring tank of toxic methyl isocyanate near her home.

After the Bayer explosion, the U.S. Chemical Safety Board recommended West Virginia establish a program requiring annual third-party safety audits, the findings of which would be publicly available. The CSB has made that recommendation to West Virginia three times in the last five years, but it has not been implemented.

If West Virginia had implemented that statewide program, CSB chairman Dr. Rafael Moure-Eraso said it might have prevented the January chemical spill that contaminated drinking water for 300,000 West Virginians. Nye is not so sure. The recommended program only applies to chemical facilities that store extremely hazardous substances. Crude MCHM is not considered hazardous under the federal Toxic Substances Control Act, which currently allows 62,000 chemicals — including crude MCHM — to be stored with no requirement that they be tested or shown to be safe.

That crossing between federal and state regulations means it will be difficult, if nearly impossible, for one bill to solve all the problems that advocates say currently plague the chemical storage systems in West Virginia and across the country. Share this:



"Individual state laws can't cover everything," said Christie Todd Whitman, the former Environmental Protection Agency chief under George W. Bush and current advocate for stricter safety standards on American chemical facilities. "You need to have some federal legislation."

Round Up The Little Guys

Whitman has a unique history of trying to implement federal chemical safety regulations, beginning with the aftermath of the terrorist attacks of September 11, 2001.

After the attacks, then-EPA administrator Whitman drafted new rules to strengthen the safety of chemical storage facilities — or, as President Obama has called them, "stationary weapons of mass destruction." If approved, those rules would have allowed the EPA to implement an already-existing provision of the Clean Air Act that required facilities to use safer chemicals and storage processes.

To Whitman's frustration, however, the Bush White House declined to endorse a draft bill, and Congress did not act. She has been calling for a renewed effort ever since.

But believe it or not, the rules that Whitman wants do exist. They manifest themselves, however, as "standards" set by industry trade association the American Chemistry Council (ACC). ACC's members are held to strong universal safety standards, and they include a lot of the things that chemical safety regulation advocates want: publicly accessible safety information, a commitment to using inherently safer chemicals, and hardening the structural integrity of chemical facilities.

Individual state laws can't cover everything ... You need to have some federal legislation.

Some of the biggest chemical companies are ACC members: BASF Corp., Dow Chemical, DuPont, ExxonMobil. And even though the standards are not technically enforceable, they are working, Whitman says.

"The big companies are pretty responsible because they don't want anything to happen," Whitman said, noting the potentially huge liabilities that larger companies face. "But it's the smaller ones, the outliers — there's so many of those that are not members [of ACC] and they have very volatile chemicals."

It's true, America's most notable chemical disasters in the year have not been dominated by Big Chem. The company responsible for West Virginia's notorious spill was Freedom Industries, a company whose tiny, decrepit headquarters is tucked at the end of a bumpy dirt road in Charleston, West Virginia.

Williams Olefins is not the smallest company in the world, but it's not well-known — except for that June 2013 toxic chemical explosion that killed two workers and injured 114 others. And have you ever heard

~~of West Fertilizer Company? Neither did most people in the United States, until a chemical explosion at~~
one of its Texas facilities in April 2013 killed    injured 160.

None of those companies are members of the ACC. They do not pay ACC's dues, and are therefore not subjected to ACC's safety standards. "That's why you need federal legislation," Whitman said.

A Bigger Toxic Chemical Encyclopedia

But universal safety standards are not the only thing the federal government needs to tackle to prevent chemical spills, and ACC agrees. The group, along with advocates for stronger chemical safety regulations, want updates to the Toxic Substances Control Act (TSCA) — the same law that allowed crude MCHM to be stored in West Virginia with no requirement that it be shown to be safe.

The TSCA is America's primary law on chemical use, but it has not been updated in the 38 years that it has been in existence. Out of the 80,000 chemicals in use in the country today, the 62,000 chemicals that were already in use when the law was passed were "grandfathered" — meaning there was no requirement to determine whether or not they are actually safe for humans.

"In the United States, chemicals are innocent until proven guilty," Dr. Sanjay Gupta, CNN Chief Medical Correspondent, has written. "And, the only way they are proven guilty is by health effects turning up in people who have been exposed, often years later. In some ways, that makes us all guinea pigs."

Gupta's comments likely ring true to those exposed to the chemical spill in West Virginia, who still don't know what that exposure will mean for them in the short- or long-term.

There remains debate on how best to solve the problem of the TSCA, though it is almost universally considered a problem. A bipartisan bill introduced by the late Sen. Frank Lautenberg (D-NJ) and Sen. David Vitter (R-LA) in 2013 would update the law by allowing EPA to identify some, but not all, priority chemicals for additional safety information.

The Washington Post's editorial board applauded the bill, saying its authors "were right to balance a legitimate interest in maintaining an innovative and profitable chemicals industry against public health demands." But environmentalists scowled, saying it "still leaves too many gaps in protecting the public." Alternatively, many have suggested reform modeled after the European Union's 2006 chemical law, called REACH, which authorizes EU officials to study and collect data on more than 100,000 chemicals over several decades. But the EU's method uses animal testing, making it a controversial option.

Either way, something has to be done soon with TSCA, according to League of Conservation Voters President Gene Karpinski.

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"Republicans and Democrats in Washington should redouble their efforts to finally reform the [TSCA] in a way that truly protects public health," he said. "We can't afford to wait until the next crisis for Congress to act."

Heightened Community Preparation

Universal standards and updates to TSCA would likely require Congressional action. The EPA could act on its own, but as Whitman notes, it would undoubtedly be challenged in the courts — meaning it may take the span of litigation before rules are actually implemented.

"People think EPA just can't get enough of regulations; for the most part they would rather have Congress do it," Whitman said. "Unfortunately with this Congress, it's difficult to get things done."

Everybody out there is just being systematically kept in the dark about the chemicals that surround them.

Congress, however, does not always have to be involved, particularly in making communities more prepared for a disaster. Experts cite New Jersey's Toxic Catastrophe Prevention Act as an example. The law contains extremely detailed language on what chemical companies are required to do in order to prepare and was prompted by one of world's worst chemical accidents — which no one saw coming.

On a December night in 1984, a Union Carbide plant in Bhopal, India leaked deadly methyl isocyanate gas into the atmosphere. The release killed between 2,000 and 8,000 people in just the first few days. In the wake of that event, it was discovered that Union Carbide had actually prepared a comprehensive hazard analysis of the plant. That analysis acknowledged the risk of a terrible urban tragedy if a leak occurred.

Problem is, the company didn't tell anyone about the risk, according to Fred Millar, a hazardous materials policy consultant in Washington, D.C. Millar said that after the 1984 disaster, the U.S. discovered that Union Carbide had a sister plant with the same deadly chemical, located in — where else? — Charleston, West Virginia.

"Everybody out there is just being systematically kept in the dark about the chemicals that surround them," Millar said, "and basically that's what prompted New Jersey to do its Toxic Catastrophe Prevention Act."

Among other things in the New Jersey state law, owners of chemical facilities are required to develop extremely detailed emergency response plans, including procedures for informing the public about accidental releases. Companies are also required to document the proper first-aid and emergency medical treatment necessary to treat human exposure to their chemicals, and those treatments are required to be coordinated with the community emergency responders. Companies are also required to designate a so-called "emergency coordinator" responsible for updating the public on any release



— anywhere from what mitigation measures the company is taking to how changing weather conditions are effecting the release.

“West Virginia should be thinking about that kind of thing,” Millar said.

Share The Wealth

Another strong chemical safety law already in place in the U.S. is a local law in Contra Costa County, California. That law, too, requires companies to submit safety plans. Under the chemical safety program, the government employs people who regularly oversee those plans.

The key difference there, though, is that those companies help pay for the program through government fees.

“The success of a safety program is dependent upon the cooperation of industrial chemical and oil refining facilities within Contra Costa County,” the law states. “Preventing accidental releases of regulated substances is the shared responsibility of industry, government and the public.”

Part of that shared responsibility means making sure companies actually feel responsible when they do cause damage to the community, according to Millar. If companies aren’t afraid of being held completely liable for their actions, he says, why would they even make the costly effort to prevent a spill in the first place?

“[Companies] don’t have to worry about a government where they can just buy out everybody,” Millar said. “What they do have to worry about is liability concerns.”

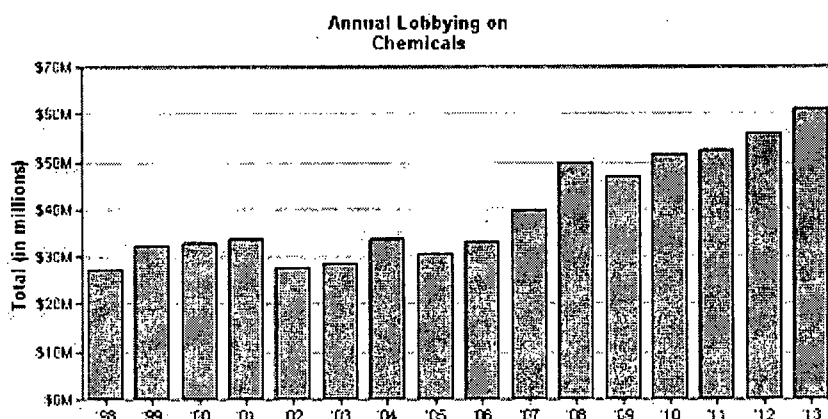
He continued, “If you try to advise governments to set up a really good state law on chemical safety, make sure there’s some very powerful language about liability, and mandatory insurance. That’s the best advice I can give.”

Why Hasn’t Anything Happened Yet?

Chemical accidents are not new. Neither are calls for regulatory reform. The fact is, those calls have been pushed aside for the last decade, thanks in no small part to rigorous lobbying efforts from the chemical industry.

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CREDIT: OpenSecrets.Org

“Chemical companies don’t want more layers of accountability,” Maya Nye wrote in a recent op-ed in the Charleston Gazette. “That’s clear by the amount of money spent on chemical industry lobbying every year.”

From 2005 through part of 2012, the chemical industry gave \$39 million to candidates for federal office and spent \$333 million on lobbying at the federal level, according to a Common Cause report, and the numbers are increasing every year. That money almost always goes to Republicans, as OpenSecrets notes.

“The chemical companies are in a near constant state of conflict with environmentalists and consumer advocates — a key constituency of Democrats — and thus the industry has calculated that it is better to support the GOP,” an OpenSecrets summary of the chemical industry says. “Over the past two decades, Republicans have received nearly three-quarters of the \$72 million contributed by the industry.”

While not all chemical lobbying efforts focus on chemical storage safety (much of ACC’s efforts surround the disclosure of harmful chemicals in products), the industry has sunk its teeth deep into American politics, and not just at the federal level. The Center For Public Integrity recently detailed just how deep, a herculean effort to dig into the fine prints of legislation state-by-state. In 2010, for example, the \$100 million advocacy group helped defeat, amend or postpone the passage of more than 300 bills dealing with chemicals and plastics in 44 states.

It’s not that the ACC doesn’t support some sort of reform, CPI’s report notes — it’s just that the reform must be done on its own terms.

“It’s an onslaught,” Connecticut legislator Diana Urban, a Democrat, told CPI. “You go into a committee and they’re out here grabbing legislators one after another. It’s very hard for me to fight that.”

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January 12, 2014

State ignored plan for tougher chemical oversight

by Ken Ward Jr.
Staff writer

Three years ago this month, a team of federal experts urged the state of West Virginia to help the Kanawha Valley create a new program to prevent hazardous chemical accidents.

The U.S. Chemical Safety Board recommended the step after its extensive investigation of the August 2008 explosion and fire that killed two workers at the Bayer CropScience plant in Institute.

Since then, the proposal has gone nowhere. The state Department of Health and Human Resources hasn't stepped in to provide the legal authority the Kanawha-Charleston Health Department needs to start such a program. And Kanawha County officials never funded the plan, and seldom mention that the CSB recommendation was even made.

Now, with more than 300,000 residents across the Kanawha Valley without usable water following a chemical accident at Freedom Industries on the Elk River, some local officials say it's time for action.

"We'd had their recommendation on the books for several years now," said Dr. Rahul Gupta, director of the local health department. "This gives us another opportunity to look at what they recommended."

During a press conference Saturday night, Gov. Earl Ray Tomblin said he would work with the state Department of Environmental Protection to consider tighter regulation of chemical storage facilities in the ongoing legislative session.

"There are certain reporting things that companies have to do," the governor told reporters. "And I do think we have to look at them to make sure this kind of incident does not happen again."

But so far, neither the governor's office nor the DHHR have responded to a specific question from the Gazette about whether they would move to implement the CSB's recommendation.

The CSB's proposal for a new "Hazardous Chemical Release Prevention Program," was the central recommendation in the agency's lengthy report on the Bayer explosion. Board members repeated the recommendation again in September 2011, when they released a report on a series of accidents that killed one worker at the DuPont Co. plant in Belle.

The recommendation, modeled after a highly successful chemical safety law in Contra Costa County, Calif., would require companies to submit safety plans, require regular government safety audits of plans, and give the public a greater say in monitoring safety performance at local companies. Theoretically, the program would be funded by a fee paid by companies that make, use and store dangerous chemicals.

"Like Contra Costa County, the Kanawha Valley has many facilities that handle large quantities of hazardous materials, some of which are acutely toxic," the CSB said in its 169-page report on the Bayer explosion. "Furthermore, the valley contains environmentally sensitive areas such as the Kanawha River, which is an important transportation corridor.

"Yet, the local government does not have the authority to directly participate in facility safety planning and oversight even though many community stakeholders have long campaigned for such authority and involvement," the report said. "The local government could adopt regulations and implement a program similar to Contra Costa County that would likely improve stakeholder awareness and improve emergency planning and accident prevention."

Under the board's recommendation, the DHHR would use its existing legal authority for rules governing "occupational and industrial health hazards" to assist the Kanawha-Charleston health agency in setting up the program - not just for the Kanawha Valley, but for industry across the state.

After the board's recommendations, the Kanawha-Charleston Health Department embraced the proposal, but worried other important parties - the state and industry - would oppose it.

"I don't think it's going to be very difficult to develop a program," Gupta said in January 2011. "The real question is, are people going to play."

Also in January 2011, Kanawha County Commission President Kent Carper said he supported the program, but feared it would face significant political hurdles.

"It's going to take the support of the Legislature and it's going to take the support of the industry," Carper said. "The problem will be gaining unified support between industry, the public and government."

A few months later, in June 2011, then-DHHR Secretary Michael Lewis told the CSB that his agency and the state Department of Environmental Protection had decided not to move forward with the CSB recommendation.

"We came to a consensus that we did not, at this time, have the expertise in-house to draft the appropriate legislation that would be needed to develop the type of program suggested in your report," wrote Lewis.

Lewis said that his agency would approach the governor's office and see if lawmakers would study the issue.

It was not immediately clear over the weekend what happened to that potential study - but DHHR has not moved forward with a chemical accident prevention plan of any kind, and the CSB lists the recommendation on its website as "open."

Industry groups, including the American Chemistry Council, had opposed the CSB recommendation, saying it would "create unnecessary redundancies, as well as the imposition of additional economic burdens on local industries, communities and state governments."

"Given the existing federal agency oversight with mandated industry regulations, we contend the West Virginia environment is better served through effective execution and compliance oversight by the current agencies," wrote Karen Price, who was then president of the West Virginia Manufacturers Association, in a letter to the CSB.

CSB officials, though, noted that inspections at local chemical plants by federal officials are rare - the U.S. Occupational Safety and Health Administration hadn't inspected DuPont's Belle plant for more than five years when the fatal phosgene leak occurred in January 2010, for example.

OSHA had never inspected the Freedom Industries location, and the state DEP hadn't been there since 1991, when it was a different sort of facility owned by a different company, officials have said.

On Saturday, CSB officials announced -- under pressure from Carper and from Sen. Jay Rockefeller, D-W.Va., -- that they were deploying a team to Charleston to investigate the Freedom Industries chemical accident.

But in email interviews over the weekend, CSB officials said they were being cautious about drawing too many conclusions yet about connections between their chemical safety recommendations and the latest Kanawha Valley chemical accident.

Daniel Horowitz, the CSB's managing director, said the focus on the previous recommendation was on what he called "highly hazardous chemicals" such as those involved in the deadly Bayer and DuPont incidents.

"It would have to be determined through further investigation what are [the] hazards of the materials at terminal and storage sites like Freedom Industries, what kinds of regulatory and inspection programs are in place, and what are the opportunities for preventing this sort of serious incident in the future," Horowitz said.

But, while the CSB recommendation did specify "highly hazardous" chemicals, it also said that once the program was started, local experts and citizens could work together to "define the characteristics of chemical facilities that would be covered."

Reach Ken Ward Jr. at kw...@wvgazette.com or 304-348-1702.

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Companies & Industries

Meet Freedom Industries, the Company Behind the West Virginia Chemical Spill

By [Paul M. Barrett](#) January 13, 2014



Photograph by Ty Wright for the Washington Post via Getty Images

The Freedom Industries site in Charleston, West Virginia on Jan. 11

Some 300,000 residents of Charleston, W. Va., and environs are going into their fifth day without tap water for drinking, cooking, or bathing after a coal-processing chemical leaked into the local water supply from a plant on the Elk River. That plant is owned by a closely held company called Freedom Industries. Many West Virginians, not to mention state and federal investigators, have questions about Freedom Industries. Some preliminary answers:

How long has this outfit been around?

About two weeks, in its current form. Freedom Industries is the product of a merger effective Dec. 31, 2013, that combined Etowah River Terminal, the facility where the leak occurred, Crete Technologies, and Poca Blending, located in nearby Nitro. A predecessor company called Freedom Industries was formed in 1986, according to our colleagues at [Bloomberg News](#). How the pieces of the newly formed mini-conglomerate fit together merits urgent inquiry, as does the question of whether there's any connection between the corporate mash-up and the fateful opening of a one-inch hole that allowed a noxious chemical to escape.

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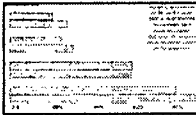


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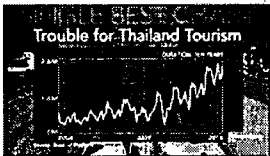


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Who's behind Freedom Industries?

Gary Southern, company president, has been speaking on behalf of Freedom. Legal filings show that Southern is also the president of a company called Enviromine Inc., which supplies "environmental chemistries and services" to coal companies.

Story: In BP Oil Spill Suit, Plaintiffs' Attorneys Turn on Each Other

At the same time, Freedom's website lists Dennis P. Farrell as president. That clearly needs sorting out. According to the *Charleston Gazette*, Farrell was the "organizer" of Etowah River Terminal, the Freedom facility where the seepage occurred. The local paper also noted that Farrell's girlfriend, Kathy Stover-Kennedy, has defended him on her Facebook page. "I'm not asking for anyone's sympathy," Stover-Kennedy wrote on Jan. 10, "but a little empathy wouldn't hurt. And just so you know, the boys at the plant made and drank coffee this morning! I showered and brushed my teeth this morning and I am just fine!"

One hopes, of course, that Stover-Kennedy and the boys at the Freedom Industries plant are still feeling good. The chemical that got into the Charleston-area water—7,500 gallons at last count—is known as 4-methylcyclohexane methanol, or MCHM. It's used to "wash" coal to remove impurities and pollutants before burning. The American Association of Poison Control Centers says it's harmful if swallowed or inhaled. MCHM can cause eye and skin irritation, nausea, and vomiting. More than 70 people have sought treatment for those symptoms since the contamination prompted President Barack Obama to declare a federal emergency.

Anybody else interesting behind Freedom Industries?

Well, yes. State records in West Virginia show that a man named Carl L. Kennedy II joined Gary Southern in forming the company years ago. A well-known restaurant owner and man-about-town in Charleston, according to the *Gazette*, Kennedy is a twice-convicted felon. The paper reported on Sunday that he pleaded guilty in federal court in West Virginia in 2005 to tax evasion and was sentenced to three years in prison, a penalty that was reduced after he agreed to wear a wire and make controlled cocaine buys in a separate investigation. Kennedy had some background in the cocaine field; in 1987 he "pleaded guilty to selling between 10 and 12 ounces of cocaine in connection with a scandal that toppled then-Charleston Mayor Mike Roark," the *Gazette* explained. Kennedy apparently no longer works at Freedom Industries. In another twist, Stover-Kennedy, Farrell's friend and the Facebook defender of Freedom Industries, is Kennedy's ex-wife, according to *Gazette* archives.

What exactly does Freedom Industries do and why was its chemical facility so close to the river that feeds into the Charleston water supply?

According to its website, the company is "a full-service producer of specialty chemicals for the mining, steel, and cement industries." The Etowah River Terminal, where the company's corporate office is located, sits along the Elk River near the intake facilities for the West Virginia division of American Water Works (AWK), the largest publicly traded water utility in the U.S. The Freedom website notes that its location makes the Etowah terminal accessible by barge and truck; barges travel on rivers. One imagines that the lawyers who are already filing damage lawsuits may have some interest in the terminal's proximity to the water supply, an issue that could come back to haunt not only Freedom Industries but also American Water Works, a corporation with far deeper pockets and, presumably, more extensive liability insurance policies.

More questions—and answers—to come in the days ahead.



Barrett, an assistant managing editor and senior writer at *Bloomberg Businessweek*, is working on a book about the Chevron oil pollution case in Ecuador, which is scheduled for publication by Crown in 2014. His most recent book is *GLOCK: The Rise of America's Gun*.

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January 13, 2014

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GREEN

West Virginia Officials Knew Potentially Chemicals Were Stored Near Elk River

Posted: 01/12/2014 6:29 pm EST | Updated: 01/12/2014 6:43 pm EST

State officials and the company that owns the tank that has leaked thousands of gallons of 300,000 West Virginians should have known that there was the potential for an incident.

The Charleston Gazette's Ken Ward Jr. reports that Freedom Industries, the company nearly a year ago that it was keeping thousands of pounds of 4-methylcyclohexane methanol a mile and a half up the Elk River from where West Virginia American Water draws supply. The chemical is used to wash coal after it is mined from the ground.

The disclosure was included in paperwork that Freedom Industries had filed under the Right to Know Act, a 1986 law that is meant ensure that the public and first responders know about a chemical accident, and that there is a plan to deal with it, such as alerts and evacuations.

The paper reports that state emergency response officials had a copy of the form, and it was in Kanawha County. But the officials and first responders appeared to be caught entirely off guard.

Those same agencies and public officials, though, have said they know little about the chemical and were surprised that this mystery substance was being stockpiled so close to a crucial water intake. The spill have happened.

Water company officials are equally puzzled. For example, West Virginia American Water CEO John Friday that his company didn't know much about the chemical's possible dangers, wasn't even sure exactly how much 4-methylcyclohexanemethanol is too much.

Despite the storage facility's proximity to the water supply, it does not appear that there was an emergency response plan in place. The article also notes that federal Occupational Safety and Health never inspected the Freedom Industries site, and the state Department of Environmental Protection for 20 years.

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COMMUNITY PUNDITS

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Thure W. (shwickdad)
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Another case of, "Don't disturb business, they provide jobs", attitude. Yes, they'll pack up and move to China where they can simply dump the stuff anywhere without regard so they won't have to "waste" profits that are better spent increasing investor stock prices. How terrible of the US to strangle business by making them actually follow rules so we don't poison the human and animal populations. Profit is far more important than that, so is providing investors the absolute maximum return for their dollar. Investors who, by the way, don't live where the poison is and aren't among those that would be impacted. It's a oxymoron whereby in America we trade our health and safety in order to have jobs to work at until we end up dying of the health and safety risks we traded to have a job.

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Michael Kelly (Mkelly534)

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In Congress no one can hear you scream

Are we surprised that corporations take shortcuts with environmental protections? They have shown that safety is at the bottom of the priority list which is why we have things like this and the explosion in Texas. We need more oversight not less.

17 MINUTES AGO

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West Virginia chemical spill: What's 4-methylcyclohexane methanol? (+video)

A West Virginia chemical spill, which has cut off water to hundreds of thousands of citizens in nine counties in the state, is used in the coal industry. The compound involved in the chemical spill into West Virginia's Elk River – 4-methylcyclohexane methanol – is used to clean coal.

By David J. Unger, Staff writer / January 10, 2014

About

WVa Chemical Spill: No Water in 9 Counties

AP

At least 100,000 homes and businesses around West Virginia's capital have been told not to use the water after a chemical spill in the Elk River. Gov. Earl Ray Tomblin has declared a state of emergency.



A West Virginia chemical spill into the Charleston-area Elk River Thursday has closed schools, businesses, and left up to 300,000 people without water in nine counties across the state. President Obama issued an emergency declaration for the state.

West Virginia, and officials are urging West Virginians of affected areas not to use water, which has been contaminated with a chemical used to clean coal.

David J. Unger
Staff Writer

David J. Unger is a staff writer for The Christian Science Monitor, covering energy for the Monitor's Energy Voices.

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The West Virginia chemical spill occurred a compound called 4-methylcyclohexane methanol leaked from a hole in the botton storage tank, Thomas Aluisse, a WVAW spokesman told the New York Times. The liquid then filled a container designed to c leaks before flowing into the Elk River, ab mile north of a water treatment plant.

What is 4-methylcyclohexane methano

The compound involved in the West Virgii chemical spill is used to rid coal of impurit before it is burned to generate power.

"Short version – it is used in removing sor sulfur from coal," David Bayless, director Ohio University's Ohio Coal Research Ce wrote in an e-mail to the Monitor. "That is separation process ... usually done at the before the coal is shipped to the utility to l

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How does that work?

Coal straight from the mine brings with it various types of shale, clay, and impurities. To burn it more efficiently and with less pollution, the energy-dense coal must be separated from its associated waste.

One method is coal washing, which leverages natural differences in density to separate coal from the sulfur, ash, and rock that we'd rather not burn. The raw material is ground up into tiny chunks, sorted, and initially screened for impurities. Then a fluid (often water) is pulsed upward through a bed of crushed coal and its impurities. Lighter particles rise to the top of the slurry, while the heavier impurities fall and are removed from the bottom. The purified coal is then dried in a final preparation process before being shipped off to the power plant.

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Water alone is not enough to purify coal. Chemicals like 4-methylcyclohexane are added to create a frothy, heavy consistency that enhances the process.

Is it dangerous?

Officials say the West Virginia chemical is not lethally toxic. It is considered potentially harmful if swallowed or inhaled and can cause eye and skin irritation. There had been no official reports of hospitalizations or fatalities as of midday Friday.

Does the US still burn a lot of coal?

Yes. Despite innovations in renewable technology and a boom in natural gas production that has undercut coal, the carbon-heavy fuel is still the predominant provider of electricity in the United States and globally. Coal plants generated 37 percent of US electricity in 2012, according to the US Energy Information Administration, down from 50 percent in 2007. It is estimated to have risen 3.9 percent in 2013 and projected to rise 3.3 percent in 2014, as natural gas prices rebound. If environmental regulations on power plants may slow that growth.

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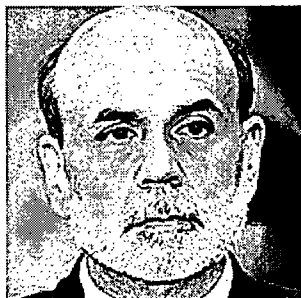
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January 10, 2014

Like most chemicals, not much known about 'Crude MCHM'

by Ken Ward Jr.
Staff writer

CHARLESTON, W.Va. -- As hundreds of thousands of residents in and around the Kanawha Valley struggle with the "do not use" order from West Virginia American Water Co., one stubborn fact continues to frustrate residents and some local health officials alike: No one seems to be able to say for sure what the coal-cleaning chemical that's been dumped into our water might do to us.

Water company officials have identified the chemical - which leaked from a Freedom Industries tank just upstream from the regional drinking water intake on the Elk River - as something called "Crude MCHM." That material is made up almost entirely of another chemical, 4-methylcyclohexanemethanol.

Material safety sheets from several manufacturers list little in the way of health information. Toxicological databases provide few answers.

"No specific information is available in our database regarding the toxic effects of this material for humans," one chemical fact sheet explains. "However, exposure to any chemical should be kept to a minimum. Skin and eye contact may result in irritation. May be harmful if inhaled or ingested."

Carcinogenic effects? No information available. Mutagenic effects? No information available. Developmental toxicity? No information available.

Such a dearth of data can leave even the local experts scratching their heads.

"There's not much known about this chemical," said Dr. Elizabeth Scharman, longtime director of the West Virginia Poison Center, which has been fielding calls from concerned residents since the crisis began.

What Scharman and toxicologists she consulted with are comfortable saying is that the material is likely an "irritant" that could cause itching or burning of eyes, skin and the respiratory tract. It could, in some cases, prompt vomiting or diarrhea.

Beyond that, it's not entirely clear, but health officials are certainly not saying exposure to small amounts diluted in the water are going to cause residents to start dropping dead anytime soon. Still, they advise everyone to follow the water company's order and avoid drinking or otherwise using water from their taps.

"We're not, from a toxicological aspect, overly concerned at this point," Scharman said. "But because we don't know, it's prudent from a public health perspective to tell people not to use it."

Still, some emergency response and environmental protection officials have been quick to assure the public that 4-methylcyclohexanemethanol isn't "hazardous." They've made that statement based on one limited piece of evidence: the fact that it's not listed as a material whose shipment is regulated by the federal Department of Transportation.

But the material safety data sheet, or MSDS, being cited by some of those same officials indicates the substance is considered hazardous under other regulatory standards, such as those set by the federal Occupational Safety and Health Administration.

Some officials also pointed to something called the median lethal dose, or LD50, for the material. It's listed as 825 milligrams per kilogram, and means that when tested on rats, an 825-milligram dose per kilogram of body weight was enough to kill half the rats. Basically, if you do the math, the LD50 shows you someone would have to ingest a lot of this stuff for it to kill them, officials have said.

What officials citing that figure weren't saying is that, depending on which scale you use, 4-methylcyclohexanemethanol would still be classified as either "moderately" or "slightly" toxic.

And while used widely by emergency responders and on MSDS sheets for a quickly accessible rule of thumb based on an easy to do test, the LD50 is considered by toxicologists to be a rather crude measure. Among other things, it doesn't tell you anything about what levels would make people sick - only what levels would immediately kill a rat.

"In day-to-day toxicology, that's not very helpful," Scharman said.

Based on her research so far, Scharman said that even though residents could have consumed the water for hours before the "do not use" order was issued, the short-term, acute impacts are of greater concern than any long-term effects - assuming residents don't go back to their taps before they're told it's safe to do so.

Along with the vacuum of health-effect information, Scharman noted, there's been some confusion about exactly what substance was involved.

For one thing, 4-methylcyclohexanemethanol has quite a few synonyms. For another, because there's so little known about it, searches of online databases can easily pull up a different substance, leading to misunderstandings about the potential health impacts.

Some residents, and some media outlets, have cited health information about chemicals other than those that were actually involved in the Freedom Industries leak.

And during a press conference Friday morning, West Virginia American Water President Jeff McIntyre revealed that his company was initially given incorrect information - he didn't know by whom - about what material was involved in the spill.

McIntyre said his company thought the treatment systems at its Elk River facility would be adequate for the chemical that it was initially told had leaked. Later, crews figured out that wasn't the case, especially after treated supplies at the plant had a "licorice" smell - the same that nearby residents complained of earlier in the day.

Now, West Virginia American says it's left with no treatment options. The company says it can try only to clear the contaminant by physically flushing its many miles of service lines.

"Unfortunately, this is in the distribution system," McIntyre told reporters. "Once it's in the system, there is no treatment for it."

While residents depend on regulators and the water company to ensure their drinking water is safe, federal and state laws set limits and mandate sampling for only certain chemicals, and 4-methylcyclohexanemethanol is certainly not among them.

McIntyre said his company began trying to test for the substance only after it learned about the leak. He said the substance was detected, but that West Virginia American was not able to quantify the concentrations. Even if it had, he said, the company had no regulatory or public health guidelines to judge whether the detected levels were safe.

The lack of health guidelines or regulatory limits isn't that unusual, either. Few chemicals are actually regulated by safe drinking water or other water quality rules, and the U.S. Environmental Protection Agency has tested only about 200 of the 84,000 chemicals in the agency's inventory.

"Most chemicals in commerce we know very little about," said Celeste Monforton, a George Washington University public health researcher. "This stuff is in the water now, and people have ingested it, and we just don't know. It's very concerning."

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